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ABSTRACT

Automating a library can be an expensive, time-consuming endeavor that includes many risks. These risks can be reduced through a variety of methods: learning all one can about the systems available that perform the functions in which one is interested, clearly defining one's needs and expressing them succinctly to vendors, and learning how other similar libraries have dealt/are dealing with similar automation projects. This paper utilizes a survey of chemical (sci-tech) libraries functioning within for-profit corporations in Ohio to generate information on ongoing and proposed automation projects for such libraries. While it would probably be difficult for one of these librarians to get approval to visit another's site, because of the competitive nature of these companies, a survey such as this provides the opportunity for these librarians to learn of successes and disappointments with systems in these other libraries. Informal discussion with some of these librarians has indicated a need for such a compilation and exchange of information. They also indicated a willingness to cooperate as fully as possible. Thirteen (87%) of the 15 libraries responding to the survey indicated that they utilize library automation (have implemented at least one project). Their responses are documented and tabulated in this paper. A copy of the survey questionnaire is appended. (14 references) (Author/DB)

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LIBRARY AUTOMATION: SURVEY OF CHEMICAL (SCI-TECH) LIBRARIES WITHIN FOR-PROFIT CORPORATIONS IN OHIO

A Master's Research Paper submitted to the
Kent State University School of Library Science
in partial fulfillment of the requirements
for the degree Master in Library Science

by

Krystal K. Slivka

June 1991

IR 053 862

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LIBRARY AUTOMATION: SURVEY OF CHEMICAL (SCI-TECH) LIBRARIES WITHIN FOR-PROFIT CORPORATIONS IN OHIO

Automating a library can be an expensive, time-consuming endeavor that includes many risks. These risks can be reduced through a variety of methods: learning all one can about the systems available that perform the functions in which one is interested, clearly defining one's needs and expressing them succinctly to vendors, and learning how other similar libraries have dealt/are dealing with similar automation projects. This paper utilizes a survey of chemical (sci-tech) libraries functioning within for-profit corporations in Ohio to generate information on ongoing and proposed automation projects for such libraries. While it would probably be difficult for one of these librarians to get approval to visit another's site, because of the competitive nature of these companies, a survey such as this provides the opportunity for these librarians to learn of successes and disappointments with systems in these other libraries. Informal discussion with some of these librarians has indicated a need for such a compilation and exchange of information. They also indicated a willingness to cooperate as fully as possible. Thirteen (87%) of the fifteen libraries responding to the survey indicated that they utilize library automation (have implemented at least one project). Their responses have been documented and tabulated in this paper.

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Master's Research Paper by

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B.S., University of Akron, 1982

M.L.S., Kent State University, 1991

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The author wishes to take this opportunity to thank all librarians who participated in this study. It's benefit is directly related to their time and effort in filling in the surveys. It is my hope that one day these librarians will be able to network effectively, providing continual updates of systems that work well (and those that do not).

INTRODUCTION

Chemical (Sci-tech) libraries. Library automation. Do the two go together? A survey was conducted during the summer of 1988 (utilizing fifty-seven Illinois special libraries) to learn if the terms "special libraries" and "automation" are as synonymous as the author believed them to be. The author stated that in order for ".. businesses to stay competitive and profitable it is necessary to have current, up-to-date information readily available... "[1] and that this would indicate a need for a high level of automation. She found that levels of automation depend upon a number of factors: financial support, corporate support in principle, user needs, available alternative resources, software resources, and the adaptability of existing equipment. The survey highlighted some interesting and surprising data.

How do sci-tech libraries -- in particular, chemical libraries in for-profit corporations -- compare to the composite of special libraries surveyed in the past? Does the competitive nature of their parent corporations discourage cooperation among this specialized group of librarians? Are the tremendous budgets allotted for sophisticated equipment and computers used for chemical analysis equalled by budgets allocated for sophisticated automation projects in the information centers (libraries) of these companies? This is an area of research that is lacking in the published literature. This project attempts to answer some relevant questions of interest to chemical (sci-tech) librarians in dealing with library automation.

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[1]Carol D. Todd, "From A to Z and Everything In Between: Automation and Special Libraries," Illinois Libraries 71(3-4) (March-April 1989): 199.

LITERATURE REVIEW

INTRODUCTION

Whether or not to automate selected library functions is a decision that many library managers are now facing or have faced in the past ten years. Library automation can streamline work flow, provide access to more information in less time and with less effort (after the system is functional), and can permit a library to offer services it wouldn't otherwise be able to provide. But even after the decision to automate has been made, many decisions as to how best to accomplish it must also be made. Hardware and software must be selected and installed, employees trained, and promotional materials prepared to announce the enhanced services to the patrons. These decisions can be costly, time consuming, and do involve risk. This risk can be minimized by studying how similar libraries have attempted to automate their functions -- and by learning from their successes and from their not so successful ventures.

While public librarians and academic librarians have shared much of this information in the literature, very little has been written about special libraries. Of particular interest to the author are chemical (sci-tech) libraries within for-profit organizations in the state of Ohio. No published information has been identified which deals with the automation needs of this select group of librarians -- a group which tends to be isolated from its members due to the competitive nature of the companies they represent.

The author's intent was to survey these librarians and then provide a description of the levels of automation and types of functions being automated in these libraries. Also, like

a survey of Tennessee libraries[2], the purpose was to create a list of software packages being used for particular functions (an unique code was given to each library, allowing one the capability to trace a particular system through its various capabilities -- but allows each library to remain unidentifiable for confidentiality purposes).

To provide the reader of this paper additional general information on library automation as well as the current status of specific research which has included surveys of special libraries, the author has conducted a review of the literature and has included the highlights of this review in the following pages.

GENERAL INFORMATION ON LIBRARY AUTOMATION

What is meant by Library Automation? Library automation is often referred to as the utilization of electronic data processing machines (computers) and appropriate software to carry out some well-defined library process(es) -- with a minimum of human intervention. Or in other words, the use of micro/mini/mainframe computers to process some function(s) for a librarian. While some company libraries may utilize mainframes (and such information will be collected), it is assumed that due to the size of many of these libraries, most applications will be utilizing a microcomputer and this is the emphasis of this paper.

According to William Saffady, libraries have used technology in general and computers in particular since the 1960s to automate a wide range of public, administrative,

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[2]Ann Denton and Ramona M. Mahood. "Automation of Technical Service Functions in Academic, Public, and Special Libraries in Tennessee: A Survey Report," Tennessee Librarian, 41(4) (Fall 1989): 15.

and technical services tasks.[3]

For a more complete discussion on the history of microcomputers in libraries, one may consult Wallace and Giglierno's article, "Microcomputers in Libraries". These authors state that technology is changing so rapidly today that often by the time an article is written assessing a particular software application, the software has undergone many revisions, or by the time research has been reported on how an individual library utilizes microcomputers, they may no longer be doing what was described[4]. However, this author believes that even if the data are out of date by publication, they can still be useful as a basis for decision-making and for retrospective evaluation of library automation techniques.

What are the advantages of library automation? Monica Ertel believes that while it may be difficult to document, microcomputers have made it possible for librarians to accomplish more, in a shorter time, and in a more professional manner than ever before.[5]

While much of the literature touts computer technology as the wave of the future as well as today, there have been disappointments with some systems' performances. According to the literature this is often due to poor communication between the librarians and vendors. Librarians "... may not have articulated their needs properly, and consequently acquired an

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[3]Saffady, William. Introduction to Automation for Librarians (Chicago, Illinois: American Library Association, 1983): 156.

[4]Danny P. Wallace and Joan Giglierano, "Microcomputers in Libraries," Library Trends 37(3) (Winter 1989): 295.

[5]Monica Ertel, "Micros for Productivity: Where Will We Stand Tomorrow?" in Connecting with Technology 1988: Microcomputers in Libraries. ed. Nancy Melin Nelson, p. 8.

improperly sized or configured system."[6]

What size computers are needed for library applications? According to Howard Falk, microcomputers are rapidly replacing larger computers for many library applications. Multi-user microcomputers and micro-based networks provide the necessary capacity for handling larger collections (databases). Advances in the storage capabilities of microcomputers have increased the importance of developing microcomputer-based programs for libraries. Along with the increase of storage capacity has been an increase in software produced for various functions. Library specific software includes:

> acquisitions control; audiovisual, equipment and facilities management; bar code label production; cataloging; circulation/overdues; computer-aided instruction; document control; gateway software; indexing; integrated system; interlibrary loan; inventory; online catalog; readability estimates; retrospective conversion; school library budget management; selective dissemination of information; serials control; shelf space management; statistics; and utility software ....[7]

Technology is rapidly changing, and many librarians are becoming more adept at utilizing it efficiently for their needs. For instance, twenty years ago, photocopying machines were still regarded by many librarians as expensive and somewhat exotic conveniences. Today, these copiers are considered essential tools for transferring information.

> Similarly, automated library systems have evolved from the experimental to the practical, from expensive phenomena of early research to commercially packaged turnkey systems that address the entire range of basic library processing operations. Automation is now a legitimate business investment for most library organizations. It can be argued for virtually all types and sizes of libraries that it is time to make a basic technological change from cumbersome manual operations to automated systems, from traditional card

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[6]"System Performance," ed. Jon Drabenstott, Library Hi Tech 4(3) (Fall 1986): 105.

[7]Danny P. Wallace and Joan Giglierano, "Microcomputers in Libraries," Library Trends 37(3) (Winter 1989): 295.

> catalogs, order files, loan files, and the dozens of other files that find their way into every aspect of manual library procedures, to computer-based information systems that retrieve information in an instant for library staffs and users alike.[8]

At present, nearly all libraries of any consequence are attempting to procure some sort of automation.[9] According to Rob McGee, the "... advent of personal computing as an affordable means of information control poses not the question of *whether* to automate the library, but the question of *when* to do so."[10] When librarians do begin planning their systems, they need to define their performance expectations both clearly and realistically.[11] How is this accomplished? How do librarians become automation experts?

Robert A. Walton in his book Microcomputers addresses issues raised by full-time librarians who may not know much about microcomputers or computer technology in general, but who desire to utilize them in their libraries.[12] It deals with issues of 1) hardware, 2) software, and 3) procurement and management of the computer system. Issues such as site preparation, and equipment procedures and policies are also addressed. This book is not intended to be a complete source for all information necessary when selecting a

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[8]Rob McGee, "Funding Library Automation," ed. Jon Drabenstott, Library Hi Tech 4(1) (Spring 1986): 112.

[9]Audrey N. Grosch, Distributed Computing and the Electronic Library: Micros to Superminis, (White Plains, NY: Knowledge Industry Publications, Inc., 1985), v.

[10]Rob McGee, "Funding Library Automation," ed. Jon Drabenstott, Library Hi Tech 4(1) (Spring 1986): 113.

[11]"System Performance," ed. Jon Drabenstott, Library Hi Tech 4(3) (Fall 1986): 106.

[12]Walton, Robert A., Microcomputers: A Planning and Implementation Guide for Librarians and Information Professionals, (Phoenix, Arizona: Oryx Press, 1983): vii-viii.

system, but rather is a general overview of issues one must address and the impact of some of the decisions that must be made.

Since hardware decisions in special libraries may often be influenced by MIS groups within the corporation, the focus here is instead on software decisions. Julia Dickman of Sydney Ltd. discusses "two camps" of software available, i.e., business software and library-specific software and discusses packages useful for each function. Business software includes word processing, spreadsheets, database management systems and communications software. Library-specific software includes information retrieval packages, library housekeeping packages, and software packages to assist going online with external databases[13].

Ms. Dickman discusses three stages of an automation project: planning, choosing, and implementing -- and encourages librarians to include everyone in the process. While discussing issues on software selection, she warns that one should not be tempted to write his own programs or believe that someone in the computer group will be able to adapt something in dBase that will be suitable -- it won't be as good -- and it will certainly cost more.

There are several other authors who also address issues of interest to all librarians, including the skills necessary to efficiently examine software packages available on the market and to evaluate these for their specific functions. Jennifer Cargill, one such author, discusses the staff use of microcomputers as falling into five major categories: user services, processing activities, maintenance, publishing, and administrative -- and she details each.

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[13]Julia Dickman, "Where does IT fit in?" in Resource Allocation in Industrial and Commercial Libraries: Optimising New Technology and New Services, ed. Lawraine Wood, (Los Angeles, CA: Taylor Graham, 1988): 28-29.

As the staff becomes proficient at using microcomputers, work expectations change -- what was once only wished for, is now accomplished. To tap the creative potential of microcomputers in the future, the author suggests a four-step process:

1. Examine the process by reviewing the hardware and software and how it is used now.
2. Share your experiences--your use patterns--with others. This may help them with applications they have not considered.
3. Form a group of users to meet and explore applications experiences and share problems that have occurred. This will encourage risk taking and discussion of possible solutions.
4. Regularly read about what is available and about use of the hardware and software in computer industry periodicals and in such periodicals as Small Computers in Libraries.[14]

Another book of interest deals specifically with management issues related to microcomputers used in libraries, and was written by Sheila Intner and Jane Anne Hannigan. "The role of this book is to examine the management issues relating to the introduction of microcomputers and their software into libraries as well as how they may be employed in performing library functions and library services in general."[15]

As mentioned earlier, choosing and implementing a library automation system requires a great deal of planning, evaluating, and some risk. When making final system selection decisions, librarians can considerably reduce these risks by observing systems in similar environments.[16] While this may be difficult for chemical company librarians (since

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[14]Jennifer Cargill, "Micros at Work: Specific Library Applications" in Connecting with Technology 1988: Microcomputers in the Libraries, ed. Nancy Melin Nelson. (London: Meckler, 1988), 13-25.

[15]Intner, Sheila S. and Jane Anne Hannigan (eds.), The Library Microcomputer Environment: Management Issues, (Phoenix, Arizona: Oryx Press, 1988): viii.

[16]"System Performance," ed. Jon Drabenstott, Library Hi Tech 4(3) (Fall 1986): 106.

these companies are often quite competitive and usually deny any visits by competitors), it was the hope of this author that the librarians cooperating in this survey project would be willing and able to discuss the systems they are now using and any additional plans they may have for implementing this technology in the future. It was originally hoped that these librarians would permit the author to clearly identify the company names with these systems, thus providing an opportunity for this select group of special librarians to learn from the successes and disappointments of their colleagues in other corporations. Since most of the libraries participating in the survey denied the author the right to clearly identify responses with a particular company name, the author has chosen to assign random codes to all libraries and then display relevant data about each. The author hopes that this maintains the spirit of anonymity while providing other librarians with important information pertaining to each type of system.

STUDIES INCLUDING SPECIAL LIBRARIES

The literature cited thus far has focused on library automation as it relates to all librarians. This author is interested in information about automation of special libraries and, as mentioned earlier, particularly those chemical (sci-tech) libraries within for-profit corporations located in the state of Ohio. Very little research has been published about special libraries, and the author found no information specifically discussing chemical libraries. Following are short discussions of automation various research conducted projects in the last few years which included special libraries.

Most special libraries started library automation in the 1980s. According to Carol Todd's survey of 57 Illinois special libraries in the summer of 1988, only 45% of the

responding libraries had automated "card" catalogs, 35% had automated circulation, and two libraries had access to the library from home. While much has been written about desktop publishing capabilities, not one of the libraries responding to the survey handled their production/reproduction in this manner -- two libraries indicated that other groups within the company handled it. Only 6% of the respondents were utilizing CD-ROM technology. However, nearly every responding library (95%) has access to online databases, with 23% allowing end-user searching. The author mentions that several have built their own databases for internal or highly specialized publications -- but does not indicate anything more about them. In her conclusions, the author states that the

> "... libraries have many plans for automation if company reorganization and cost containment programs do not interfere. Forty-eight of the libraries hope for full automation or at least an automated card catalog. Networking (16 percent), enhancements (13 percent) and CD-ROM (13 percent) are the next highest priorities for many. Surprisingly, three libraries stated that they have no future automation plans..."[17]

A second study involved libraries in Tennessee which included: academic, public and special libraries. This survey encompassed technical service activities and had "... a two-fold thrust: to determine how automation is being employed and to compile an inventory of the software and hardware in use."[18] For this survey technical services was defined as those activities which relate to "... acquisitions/collection development, cataloging/bibliographic control, circulation, online public access catalogs, serials, and closely related miscellaneous

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[17]Carol D. Todd, "From A to Z and Everything in Between: Automation and Special Libraries" Illinois Libraries 71(3-4) (March-April 1989): 199-203.

[18]Ann Denton and Ramona M. Mahood. "Automation of Technical Service Functions in Academic, Public, and Special Libraries in Tennessee: A Survey Report," Tennessee Librarian, 41(4) (Fall 1989): 15.

activities."[19] However, any automated services performed directly for library users, such as interlibrary loans or online searches were excluded from the questionnaire and the survey report. The study reported that 88 of the 174 responding libraries (slightly more than 50 percent) had implemented at least one automation project in the tech service area. They concluded that most of the libraries declaring an interest in technical service automation had already initiated the process; in the case of special libraries one-third had implemented some automation projects. However, 56 percent of the special libraries indicated no plans to automate.

What does this all mean? Are special libraries utilizing library automation? Are they only using it for interlibrary loans or online searching? Audrey Grosch indicates that as a rule, special libraries have typically been "... heavy users of database search companies and private file service providers and have possessed their own in-house computer facilities, as many special libraries were among the first to employ computer technology in the early 1960s"[20]

In addition to the question of whether libraries are now automating functions that were once performed manually, is also the question of how libraries are utilizing such automated systems as vendor supplied databases (online searching). Do special libraries use them instead of printed indexes? Do they utilize full-text files rather than subscribing to expensive journals? Do they only use them as a supplement to available hard copy sources?

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[19]Ann Denton and Ramona M. Mahood. "Automation of Technical Service Functions in Academic, Public, and Special Libraries in Tennessee: A Survey Report," Tennessee Librarian, 41(4) (Fall 1989): 15.

[20]Audrey N. Grosch, Distributed Computing and the Electronic Library: Micros to Superminis, (White Plains, NY: Knowledge Industry Publications, Inc., 1985), 13.

Pamela Kobelski and Betty Miller felt the situation was more complex than many previous discussions had indicated, so they conducted a survey. They surveyed a variety of special libraries including business-finance (36.8%), science & technology (24.9%), law (17.6%), and several other kinds. Essentially, they concluded that the "...large number of databases used and the low percentage of these available in libraries in print form suggest that special libraries use online databases to supplement, not to replace, print subscriptions. This is in line with results found by others."[21] They also claimed that while a library's decision to cancel a publication seems to be influenced by the availability of an online database, they really hadn't seen evidence of wholesale migration. These online searching capabilities have provided special libraries with access to many more resources, and had undoubtedly saved the librarians much time and money.

SUMMARY

By now, one will realize that there are many ways to "automate" a library, many choices to be made, and many factors must be weighed before the decision to automate is made. This paper does not strive to concentrate on how or why company libraries have/have not chosen to automate. But rather, if a library has chosen to automate, what areas have they automated, how have they done so (i.e. what types of systems, mainframe, mini, types of software, etc.), pros and cons of such a decision, and any future plans they may have or be considering. The author has assigned codes to the participating libraries at random, and has generated lists of the software/hardware systems utilized for each function, and which

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[21]Pamela Kobelski and Betty Miller, "Impact of Online Search Services on Special Libraries," Science & Technology Libraries 7 (Fall 1986): 79.

libraries (without identifying any companies) use which. As mentioned earlier, there are risks involved in initiating an automation system -- these can be minimized by examining systems in similar environments, by consulting a report such as this one, or by contacting other librarians who have already experienced an automation project. Much has been written about public and academic libraries attempts at library automation, but the literature addressing small research libraries -- particularly chemical (sci-tech) libraries in for-profit corporations -- is lacking. The intent of this project is to focus on a select group of these libraries, namely those in the state of Ohio, and collect appropriate information for resource and technology sharing.

RESEARCH OBJECTIVES

The purpose of this study is to describe the levels and types of automation currently employed (and planned systems) in chemical (sci-tech) libraries functioning within for-profit corporations in the state of Ohio. This report is intended as a resource for other librarians in chemical libraries who may be considering an automation project and would appreciate non-vendor supplied/librarian evaluated information about various systems.

This study focuses mainly on automation of functions within technical services as did the Tennessee survey. It does, however, also address database searching (both commercial systems and in-house systems), interlibrary loan methods, and systems used for verifying bibliographic citations/cataloging records. This survey also addresses, but does not focus on, automation software packages used such as word processing, desktop publishing, and spreadsheets.

For the purposes of this study library automation has been defined as the use of a

computer to perform a function (or functions) within the library -- normally utilizing some software application/program(s) for storage, manipulation, and/or retrieval of data (textual, bibliographic, and/or numeric).

Most of the librarians responding to this survey requested anonymity; therefore, generic codes were used in all listings of software packages/hardware equipment used for particular functions.

METHODOLOGY

This study utilizes the technique of descriptive research. A questionnaire was sent to designated chemical libraries in Ohio and results were tabulated.

To determine which libraries would be surveyed, the author chose to select all libraries in Ohio listed under chemistry related terms in the index of the Directory of Special Libraries and Information Centers (tenth edition, 1987) by Gale Research Company. The Index Headings that were used are: Chemical Engineering; Chemicals; Chemicals--Manufacturing and Industry; Organic Compounds; Chemistry; Chemistry, Analytical; Chemistry, Inorganic; Chemistry, Organic. Some of the libraries listed in the index are university libraries; these were not included in the survey -- only corporate libraries. The author has assumed that this source is the best source for indicating the appropriate population of such libraries in the state of Ohio -- therefore, all these libraries were surveyed and she assumed that the survey is being sent to the population of such libraries, rather than a sampling of such.

A questionnaire was sent to each of the designated libraries. The questionnaire requested information relating to a library's use of automation. Library automation was

defined as the use of a computer to perform a function (or functions) within the library -- normally utilizing some software application/program(s) for storage, manipulation, and/or retrieval of data (textual, bibliographic, and/or numeric).

The questionnaire incorporates questions from previous research cited in the literature review -- namely, the Illinois Special Library survey[22] and the Tennessee survey[23]. Additional questions were designed by the author. The questionnaire was prescreened by volunteer librarians -- (professors of the School of Library Science -- knowledgeable in research methods and library automation and technology).

See Appendix A for a copy of the questionnaire and Appendix B for copies of the human subjects review request forms.

PROCEDURES AND DESIGN

As mentioned earlier, this study was performed as a descriptive study. The purpose of collecting data on library automation is to share that information with the participating librarians. Automating functions within a library involves technical skills, good communication skills and excellent evaluative skills -- one must effectively evaluate how functions are currently performed, alternative procedures in use/proposed in other facilities, evaluation of vendor supplied information, and the feasibility of such changes within ones library. This paper attempts to provide basic information describing current state-of-the-art

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[22]Carol D. Todd, "From A to Z and Everything in Between: Automation and Special Libraries" Illinois Libraries 71(3-4) (March-April 1989): 199-203.

[23]Ann Denton and Ramona M. Mahood. "Automation of Technical Service Functions in Academic, Public, and Special Libraries in Tennessee: A Survey Report," Tennessee Librarian, 41(4) (Fall 1989): 15.

automation projects for chemical libraries -- including respondents' comments on their satisfaction/dissatisfaction of various systems/projects.

Questionnaires and a cover letter (using letterhead from the School of Library Science) were sent to all designated libraries (for description of designated libraries see Methodology section). Respondents were asked to mail (in an enclosed, self-addressed stamped envelope) or FAX their completed forms to the author by a specified date (April 19, 1991). The author's phone number and FAX number, as well as the return date were printed on both the cover letter and the questionnaire.

This study is limited to chemical (sci-tech) libraries functioning within for-profit corporations in the state of Ohio. Due to the competitive nature of chemical corporations, one might expect that the response may not be as complete as desirable, but assurances of confidentiality appear to have resulted in complete and valid responses. Due to the anticipated homogeneity of this group, it may be difficult to extrapolate this data for use with other groups.

DATA ANALYSIS

Questionnaires and a cover letter were sent to all designated libraries (for description of designated libraries see Methodology section). Respondents were asked to mail or FAX their completed forms by a specified date (April 19, 1991). The questionnaire requested the name of the company and the librarian, but the librarian was encouraged to leave these blank if he/she desired anonymity. A question was included that requested permission to combine system descriptions with the company name for the compilation of a listing to be generated in this study. There were roughly as many that granted permission as those that denied it. Therefore, unidentifiable codes were assigned to the various libraries (such as aaa, bbb, ccc, etc.). This allows the reader of this paper the ability to trace a system through its various capabilities, while at the same time maintains the confidentiality of the particular library owning that system.

The author then compiled the information and has provided tables to display individual system capabilities for selected functions. The author was also interested in discovering if there might be any predictive variables associated with levels of automation -- for example, the number of professional librarians, the size of the library, or the library budget. These would be crude estimates -- based more on loose interpretations of graphs than on rigid inferential statistics. However, not enough information was provided by participants to create meaningful graphs and/or assumptions.

The focus of this project is to accumulate information on the types of automation utilized for particular functions in a special library, and to indicate whether or not they were considered successful. This report is intended as a resource for other librarians in chemical libraries who may be considering an automation project and would appreciate non-vendor supplied information about various systems.

RESULTS

Thirty-six surveys were sent to chemical libraries in Ohio. Eighteen surveys were returned. One library indicated that it was part of a not-for-profit organization, one no longer has a library at their R&D center, and one was returned undeliverable. The results of the remaining fifteen surveys (or 45% of the 33 possible libraries) are presented below.

Thirteen (87%) of the fifteen libraries indicated that they utilize library automation (have implemented at least one project). There were a variety of comments provided for why these various libraries had chosen to automate. These included: access, efficiency, cost reduction, speed; immediacy of data (i.e. current); more data obtained in less time; labor costs for manual systems; severe staff cuts over the last decade; staff time savings, increased productivity; and that automation is the only viable alternative--nothing else can successfully and affordably handle the large data requirements of sci-tech libraries. The remaining two libraries (13%) indicated no plans to automate, with one of these two libraries commenting that they felt there was no need to automate due to the small size of the library. (These libraries are not considered in calculating percentages in the following questions).

OPACS (Question 2)

Eleven libraries (85% of those with automation projects) indicated that they currently have or are planning an OPAC (Online Public Access Catalog). Seven of these eleven are already implemented. Only two of the libraries with automation do not have or plan to utilize an OPAC. These systems were installed between 1987 through the present. Tables

1A and 1B present the results from Question 2 (OPACs).

Three libraries indicated that all of their library's materials are included in this database. Eight libraries indicated that some materials are/would be excluded -- these items typically included: research notebooks, internal reports, theses and journal holdings, vertical files, technical literature, and patents.

Since the MARC record is usually considered a "universal" record and usually portable from one system to another, the author questioned what types of records were used in these particular systems. Two libraries indicated that their systems allow for full MARC records, six indicated both MARC and non-MARC records could be used and four indicated that only non-MARC records are utilized.

Table 1B displays information about the various retrieval functions/search capabilities. All eleven systems provide Author, Title, and Subject access and all utilize Boolean Logic. Nine provide access to Series and Keyword Searching. Ten indicated access by Classification Number; eight provide a "Browse" index; seven provide access by ISSN or ISBN; five utilize Uniform Titles, and only two provide access by LC (Library of Congress) Card Numbers. One library indicated that its system also provides access by year, accession identification number, publisher, notes, and location. Another indicated that the system allows for access by Report Number and by Report Identifier.

Five libraries indicated that their systems provide all four technical service functions listed in the questionnaire (Authority Control, Global Change Capability, Verification of Names As Added to the Database, Verification of Subjects As Added to the Database). Others only performed some of the features. The totals for each area were: Authority

Control -- 6 libraries; Global Change Capability -- 7 libraries; Verification of Names As Added to the Database -- 6 libraries; and Verification of Subjects As Added to the Database -- 6 libraries.

In regards to system accessibility, six libraries indicated Dedicated terminals/PCs, seven libraries (4 of the above and 3 additional libraries) indicated access through a network. Four libraries (including 3 of the above) provide Remote Access (Dial-in) capabilities.

Seven libraries indicated that a printer(s) is available for patron use. Two of the three libraries which indicated printers are not available stated that printers will be available in the future.

The author has noted reluctance by some patrons, as well as some librarians, to abolish the card catalog even after the system is only being updated in the online version. To gauge the current trend in this select group of special libraries, the author included a question on the status of the "card" catalog. Three libraries indicated that their catalogs had been discarded; three indicate old cards are available; three indicated that only the shelflist is maintained (this includes one of the above which indicated that all old cards were available); and three indicated that their card catalogs are kept current. There is some overlap in the numbers because respondents were encouraged to check all responses which applied.

Of the eight (8) libraries indicating a Satisfaction/Dissatisfaction level with their OPAC, four (4) indicated they were Very Satisfied and four (4) were Satisfied. One library commented that an OPAC was the "only way to operate for a 'cost conscious' special library". One of the three libraries using DataTrek commented that it was a "good system -- well designed; good price -- affordable for small libraries."

TABLE 1A. OPACs (Online Public Access Catalogs) (Question 2a-f)

This table presents information on all planned and implemented OPACs in this survey. Libraries were asked to specify their particular program/software, hardware, installation date, types of records used by their particular system (i.e. full MARC, non-MARC, etc.), and the basic capabilities for searching and/or retrieving information (i.e., by Author, Title, Subject, etc.).

Library Code	Software // Hardware	Installed or Planned?	Year Installed	Types of Records used by the system	Basic Retrieval Functions/Search Capabilities (Check all that apply)											
					Author	Title	Uniform Title	Subject	Series	ISSN	ISBN	Keyword	Boolean Logic	LC Card #	Classif. #	Browse Index
aaa	BASIS currently // VAX	Planned	in progress	Full MARC	X	X	X	X	X				X			X
bbb	Techlib Plus // VAX	Installed	in progress	Full MARC	X	X	X	X	X	X	X	X	X		X	X
ccc	Not known yet	Planned														
ddd	DataTrek & USM // IBM PS/2 Model 60	Installed	'90	Both MARC & non-MARC	X	X		X	X	X	X	X	X	X	X	X
eee	Comstow's Bibliotech // VAX 6410	Planned	still going on	Non-MARC	X	X		X	X	X	X	X	X		X	
fff	DataTrek // ---	Installed	'87	Both MARC & Non-MARC	X	X		X	X	X	X	X	X		X	X
hhh	Paradox // ---	Installed	'91	Non-MARC	X	X		X					X		X	
iii	LAP Software // IBM PS/2	Installed	'88	Both MARC & Non-MARC	X	X	X	X	X	X	X	X	X		X	X
kkk	Dbase III+ to create; DataTrieve to use // Zenith PC, VAX	Planned	---	Non-Marc	X	X		X				X	X		X	
lll	ILS Sydney Library Automation // IBM PC	Installed	'89	Both MARC & Non-MARC	X	X	X	X	X			X	X		X	X
mmm	DataTrek // IBM PC	Installed	---	Both MARC & Non-MARC	X	X		X	X	X	X	X	X		X	X

TABLE 1B. OPACs (Online Public Access Catalogs) (Question 2h-k)

This table displays the Technical Service functions available on each OPAC. Respondents were asked to check all categories that applied to their system. Additionally, respondents were asked about system accessibility -- i.e., dedicated terminals, network, remote access, etc.

Library Code	Software // Hardware	Technical Service Functions Available (check all that apply)				System Accessibility (check all that apply)			Satisfaction Level
		Authority Control	Global Change Capability	Verification of Names	Verification of Subjects	Dedicated Terminals	Network	Remote Access (Dial-In)	
aaa	BASIS currently // VAX		X					X	------
bbb	Techlib Plus // VAX					X	X		Satisfied
ccc	Not known yet								------
ddd	DataTrek & USM // IBM PS/2 Model 60	X	X	X	X	X			Very Satisfied
eee	Comstow's Bibliotech // VAX 6410	X		X	X		X		Satisfied
fff	DataTrek // ----	X	X	X	X	X	X	X	Very Satisfied
hhh	Paradox // ---						X		Satisfied
iii	LAP Software // IBM PS/2	X	X	X	X	X			Satisfied
kkk	dBase III+ to create; DataTrieve to use // Zenith P; VAX		X				X	X	------
lll	ILS Sydney Library Automation // IBM PC	X	X	X	X	X	X	X	Very Satisfied
mmm	DataTrek // IBM PC	X	X	X	X	X	X		Very Satisfied

Acquisition of Cataloging Records using Automation (Question 3)

Nine (9) libraries (75% of the 12 libraries answering this question) indicated that they use some form of automation to acquire cataloging records; one library (8%) plans to do so; and two libraries (16%) do not. Of those libraries that utilize automation for cataloging records: seven use OCLC, four (including three of the previous) use EPIC, one uses either Bibliofile (CD-ROM) or LC-tapes, one only utilizes a public library online catalog, and one indicated they search MARC online.

Circulation (Question 4)

While many public and academic libraries utilize automated circulation systems due to their tremendous volume of items circulated, the author was curious whether special libraries would also find it valuable or worthwhile to do so. All thirteen libraries with automation projects responded to this question. Five of them (38%) have already implemented automated circulation systems, three of them (23%) plan to do so, and five of them (38%) do not. In seven of the eight libraries with automated systems (88%), the circulation system is integrated with the OPAC. The remaining two are not.

Are all materials circulated in this manner? Three libraries responded yes, while four responded no. Items not circulated in this manner typically include: AV materials, patents, journals, laboratory notebooks, and internal reports.

Of the seven libraries indicating a date of implementation, all have been from 1988 to the present (or near future). One library commented that their system is "not linked to the bar code reader yet".

Automated Acquisitions and/or Collection Development (Question 5)

Seven libraries (54% of those responding to this question) indicated that they have or intend to utilize an automated acquisitions and/or collection development system (4 implemented, 3 planned). Six libraries (46%) indicated that they have no plans for such a system. Of those having/planning systems, five stated that the automated acquisitions and/or collection development systems are/will be integrated with the OPAC. One indicated it is not.

Of these, three libraries order or select all of their library materials utilizing this system; one library uses another method for acquiring patents; and one library only tracks their orders on this system, but does not actually place orders on it, or use it to assist with collection development, although they do check it before ordering a book. The library using LAP expects an update of this system in the Fall of 1991.

Serials (Question 6)

All thirteen libraries responded to this question. Ten libraries (77%) have implemented an automated serials system, one library (8%) plans to do so, and two libraries (15%) do not. Five of the eleven systems (45%) planned/implemented are/will be integrated with their OPACS. Six (55%) will not.

As one can see from Table 2 there are many different systems for serials in use, each providing its own inherent strengths and weaknesses; however, even with the differences, most people seem content/satisfied with their respective systems.

TABLE 2. SERIALS (Question 6)

This table displays information provided by ten libraries which have implemented (and one library which plans to implement) an automated serials system. Respondents were asked to indicate if the serials system is integrated with the OPAC (Online Public Access Catalog), if all serial materials are handled with this system, the software and hardware used with each particular system, when the system was installed and its various capabilities.

Library Code	Software // Hardware	Integrated w/OPAC ?	All materials-this way?	Year Installed	System Capabilities (check all that apply)								Satisfaction Level
					Claims	Bindery Lists	Routing	Holdings/ Union Lists	Want Lists	MARC Conversion	Accounting /Payments	Other	
aaa	FAXON LINK // FAXON	NO		'85	X		X	X					Satisfied
bbb	Techlib/Plus // VAX (Planned system)	YES	YES	'92	X	X	X				X		Satisfied
ccc	VM // IBM VM	NO	NO[1]	circa '80	X								Very Dissatisfied [2]
ddd	Readmore's REMO [3] // IBM PS/2	NO	YES	'91	X	X	X	X	X		X		Very Satisfied
eee	Comstow's Bibliotech // VAX 6410	YES	YES	'87	X		X	X			X	X (check-in)	Very Satisfied
fff	DataTrek //	YES	YES	'88	X	X	X	X		X	X		Very Satisfied
hhh	Lotus & Paradox //	NO	YES	'89		X	X	X					
iii	LAP [4] // IBM PS/2	YES	YES	'91	X		X	X	X	X	X		Neutral
kkk	dBase III+ // IBM PC	NO	YES	'89	X	X		X	X				Very Satisfied
lll	ILS Sydney Lib. Autom. // Novell Network	YES	YES	'90	X	X	X	X	X	X	X		Satisfied
mmm	NutPlus // IBM PC/AT (comment-very good for stand alone--cannot be networked)	NO	YES	'87		X	X	X			X	X [5]	Satisfied

[1] Annuals are not
[2] Planning an automated Serials control system which will be integrated with the OPAC, etc.
[3] Still in process of implementing REMO; have thus far only used its Routing capabilities
[4] Serials update just release -- still evaluating this new version of the software (serials module not used before 1991)
[5] Reports for management

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TABLE 3. DOCUMENT ACCESS (Question 7)

This table displays information gathered from the libraries which indicated that they have implemented or plan to implement an automated document access system. Respondents were asked to indicate if their system was integrated with its OPAC (Online Public Access Catalog), what software and hardware were being used, when the system was implemented, what system capabilities are available and the level of satisfaction with their particular system.

Library Code	Software // Hardware	Planned or Installed?	Year Installed	System Capabilities (check all that apply)				Satisfaction Level
				Integrated with the OPAC?	Tracking System	Accounting/ Payment Records	Other	
ddd	INFO // VAX	Installed	'86	NO	X	X		Satisfied
hhh	-------	Installed	'90	NO	X	X		Satisfied
kkk	dBase III+ // IBM PC	Installed		NO				------
aaa	BASIS // VAX	Planned	ongoing	YES				Neutral
fff	STAIRS	Installed	'78	NO			X (Bibliographic)	------

Document Access (Question 7)

Five of the thirteen libraries (38%) responding to this question have or plan an automated document access system. Eight (62%) do not. Only one system plans to integrate this system with its OPAC. Only four libraries indicated installation dates, these being: 1978, 1986, 1990, and "ongoing". Two systems provide both Tracking Systems capabilities and facilities for Accounting/Payment Records. Another library specified that its system provided bibliographic capabilities.

The two systems which included the Tracking System, etc., indicated that they were Satisfied with their systems. One library indicated a Neutral attitude.

Databases, In-House

In-House Research Reports (Question 8a)

Twelve of the thirteen libraries with automation projects have/plan a computerized database for In-House Research Reports. One library does not. Table 4 shows the various features available on each system. From it one can determine that eleven systems provide indexing capabilities, seven allow for abstracts, and two provide full-text capabilities. The systems were installed from as early as 1970 through 1990.

Three libraries indicated that they were Very Satisfied with their systems; six were Satisfied and only one indicated a Neutral attitude toward its system.

Patents and Patent Applications (Question 8b)

Four libraries (33% of those responding to this question) have implemented a computerized database for company patents and patent applications. Eight libraries (67%)

have not; however, two of these libraries indicated that other departments within the company may have such a system.

Of the systems implemented, two provide both Indexing and Abstracts; one only Indexing, and one only full-text. Two libraries indicated that they were Very Satisfied.

In-House Research Notebooks (Question 8c)

Eight of twelve (67%) already have/plan a computerized database for In-House Research Notebooks (7 implemented, 1 planned). Four (33%) do not. Five of these systems provide Indexing capabilities (one also includes Abstracts). One system provides bibliographic data only. The oldest system was installed in 1980 and the others ranged in implementation dates from 1985- 1987 (of the five dates provided). There were varying levels of satisfaction, from one Dissatisfied and one Neutral, to four Satisfied and one Very Satisfied. See Table 5.

Database for Access to MSDSs (Material Safety Data Sheets) (Question 8d)

Seven libraries have/plan a computerized database for access to MSDSs (5 implemented, 2 planned). However, one of these systems is controlled by the safety/environmental group rather than the library. Five libraries do not have nor plan for such a system. One system utilizes a CD-ROM package which provides Indexing, Abstracts, and Full-text. Another system provides only Indexing and a third only provides Full-text. Only a few libraries indicated satisfaction levels: one library was Very Satisfied with its system, and two reported that they were Satisfied (however, one of these libraries indicated that it is looking for another system). See Table 6.

TABLE 4. DATABASES, IN-HOUSE: In-House Research Reports (Question 8a)

All libraries that indicated that they have or plan to have a computerized database for In-House Research Reports were asked to answer several questions about the system used for this purpose. These questions are summarized below. They include: type of Software and Hardware utilized, various storage/retrieval capabilities (such as Indexing, Abstracts, Full-text, other), year the system was installed and Satisfaction Levels.

Library Code	Software // Hardware	Installed or Planned?	Year Installed	Text Storage/Retrieval Capabilities				Satisfaction Level	Comments
				Indexing	Abstracts	Full-Text Online	Other		
aaa	BASIS // VAX	Installed	'86	X	X			Satisfied	
ccc	PS 370/DISOSS // IBM VMS under CICS	Installed	'82	X		X		Satisfied	Automatic transfer of documents in R&D to DISOSS
ddd	In-House system	Installed	'82	X	X			Satisfied	
eee	-------	Installed		X					Does not reside in library/Part of another department
fff	STAIRS // -----	Installed	'78	X	X			Neutral	
ggg	[ORBIT] // [ORBIT equipment]	Installed	'79	X				Satisfied	Place on outside vendors hardware with their software Orbit
hhh	MACCS II	Installed				X			MACCS II - customization software to input structures & other data, used for new data cmpds.
iii	SIRE // IBM PS/2	Installed	'87	X	X			Satisfied	
jjj	In-House system // Honeywell CP6	Installed	'70	X				Very Satisfied	
kkk	DataTrieve // VAX	Installed	'90	X	X			Satisfied	Upgrade of 1970 database & search software
lll	InMagic // Compaq 386	Installed	'88	X	X			Very Satisfied	
mmm	Nutplus // IBM PC/AT	Installed	'87	X	X			Very Satisfied	

TABLE 5. DATABASES, IN-HOUSE: Computerized Database for In-House Research Notebooks (Question 8c)

All libraries that indicated that they have or plan to have a computerized database for In-House Research Notebooks were asked to answer several questions about the system used for this purpose. These questions are summarized below. They include: type of Software and Hardware utilized, various storage/retrieval capabilities (such as Indexing, Abstracts, Full-text, other), year the system was installed and Satisfaction Levels.

Library Code	Software // Hardware	Year Installed	Storage/Retrieval Capabilities				Satisfaction Levels
			Indexing	Abstracts	Full-Text	Other	
aaa	DataTrieve // VAX	1987	X				Satisfied
bbb	BASIS (Version OF) // DEC VAX	1985	X				Dissatisfied
ddd	In-House [1] // VAX	1980	X	X			Satisfied
eee	[2]						Neutral
hhh	Paradox		X				Satisfied
iii	INFO // VAX	1986	X				Satisfied
lll		Planned					
mmm	Nutplus // IBM PC/AT	1986				Bibliographic Data Only	Very Satisfied

1 "Planning to convert to RDB-1 database from WORD-11 index system"
2 "Does not reside in Library Services/is part of another department"

TABLE 6. DATABASES, IN-HOUSE: Computerized Database for Access to MSDSs (Material Safety Data Sheets) (Question 8d)

All libraries that indicated that they have or plan to have a computerized database for Access to MSDSs were asked to answer several questions about the system used for this purpose. These questions are summarized below. They include: type of Software and Hardware utilized, various storage/retrieval capabilities (such as Indexing, Abstracts, Full-text, other), year the system was installed and Satisfaction Levels.

Library Code	Software // Hardware	Year Installed	Storage/Retrieval Capabilities			Satisfaction Levels
			Indexing	Abstracts	Full-Text	
aaa	CD-ROM // IBM	1988	X	X	X	Satisfied
ccc	— [1]					
ddd	WORD-11 [2] // VAX		X			Satisfied
hhh	MACCII - "Part of Scanning Project"				X	
kkk	— [3]					
lll		Planned				
mmm	Sigma Aldrich CD-ROM // IBM PC/AT	1989				Very Satisfied

1 "Looking for another system"
2 Controlled by the Safety/Environmental Group (not Library)
3 Not a function of the Library (Environmental does it)

Databases, Commercial (Question 9)

Twelve libraries are utilizing online commercial databases. Respondents were asked to rank vendors by frequency of use (1=most frequently used; equal numbers being given to systems of approximately equal use). Table 7A best displays this information.

DIALOG was selected as a number 1 by ten libraries; STN was a number 1 for four libraries (number 2 for another five libraries); Orbit rated a number 1 for one library (and a number 3 for six libraries).

Also included in this table is an indication of who does the searching -- Librarians, Para-professionals, and End-Users.

Table 7B includes additional information gathered from this question; namely, communications software, modem baud rates, whether or not searches are post-processed, and if so using what type of software.

CD-ROMs (Question 10)

Eight of twelve librarians responding to this question (67%) have implemented CD-ROMs in their libraries. Four (33%) have not. Table 8 displays the data gathered. One can see that these systems have been installed since 1987. Most indicate Hitachi drives used with IBM PCs (some only listed the IBM computer). There were a wide range of responses to the question on Satisfaction Level. One library indicated it was Dissatisfied with its product (and indicated that it needed to look at other CD-ROM products), one library indicated a Neutral opinion, four libraries indicated they were Satisfied, and one library was Very Satisfied.

TABLE 7A. DATABASES, COMMERCIAL (Question 9a-c)

All libraries that indicated that they utilize Commercial Databases (i.e. external/online databases) were asked to rank the vendors used by the frequency of use. Additionally these libraries were asked to indicate who performs these searches -- the professionals (librarians), para-professionals, and/or end-users. Additionally, these libraries were asked to indicate who performs these searches -- the professionals (librarians), para-professionals, and/or end-users.

Library Code	Rankings of Use of Commercial Databases (1=most used), those of equal rank get equal numbers										Who performs the searches?		
	DIALOG	STN Int'l	Orbit	Pergammon	LEXIS/ NEXIS	DataStar	Dow Jones	BRS	Wilsonline	Others	"Librarian"	Para-Professional	End-Users
aaa	1	1	1		3					3 - DataTimes	Frequently	Never	Occasionally
bbb	1	1	2	3	4	2	5	3	3	6 - NTIS 6 - DROLS	Frequently	Never	Occasionally
ccc	3	1	2		4		5				Frequently	Never	Occasionally
ddd	1	2	3	6	---	4	3	7	5	3 - several[1]	Never	Frequently[2]	Occasionally
eee	1	3	4			4		2		2 - NLM 2 - MEDLARS	Frequently	Occasionally	Frequently
ggg	1	5	3		2		4				Occasionally	Frequently	
hhh	2	1	3		4					5 - EPIC	X		
iii	1	2	3							4 - Telebase 4 - Easynet	Frequently	Occasionally	Never
jjj	1	3	4	---	---	---	2	---	---	---	X		
kkk	1	2									Frequently		
lll	1	2		4	5						Frequently		Occasionally
mmm	1	2	3	4	6				5		X		

[1] AccuData, CIS, DataTimes, EPIC, IRIS, Investext Plus, NLM, NPIRS, PIERS, Questel, Reuters, VuText
[2] no MLS personnel or Library Science (have M.S. chemists, etc.)

TABLE 7B. DATABASES, COMMERCIAL (Question 9d-f)

All libraries that indicated that they utilize Commercial Databases (i.e. external/online databases) were asked to rank the vendors used by the frequency of use. Additionally these libraries were asked to rank their use of various communications software packages, to list Baud rates used, and if they post-process their searches to indicate what software and hardware are used to do so.

Library Code	Rankings of Use of Communications Software Packages (1-most used), those of equal rank get equal numbers							Post-Processing of Searches		
	Modem Baud Rates	DialogLINK	STN Express	Kermit	Procomm	Other	Satisfaction Level	Post-Process Searches?	Software // Hardware	Satisfaction Level
aaa	2400	3	3		3	Modem Utility on VAX	Very Satisfied	YES	EDT or MASS-11 // VAX	Satisfied
bbb	1200 2400 9600	1				1 - SmartTerm 220	Very Satisfied	YES	WordPerfect 5.1 // Dell PC	Very Satisfied
ccc	1200 2400		2			1 - XTalk	Neutral			
ddd	2400		2			1 - Dialup on VAX	Satisfied	YES	WORD-11 [1] //VAX	Very Satisfied
eee	1200 2400 9600					Gandalf PACX on VAX	Satisfied	NO		
fff	1200					SmartComm	Satisfied	YES	PBS // MacIntosh	Satisfied
hhh	2400					Reflect 4	Satisfied	YES	WordPerfect or Microsoft Word //	Satisfied
iii	2400	1					Very Satisfied			
jjj	1200					[Telenet]	Very Satisfied			
kkk	2400				2	1 - ProSearch	Satisfied	YES	PC Write [2] // IBM PC	---
lll	2400	1	2				Satisfied			
mmm	2400	1	Occass.				Very Satisfied	YES	WordPerfect 5.1 // IBM PC/AT	Very Satisfied

[1] Will begin post-processing using Microsoft Word 4.0 on MacIntosh SE/30 shortly.
[2] Used to edit and give introductory information only.

TABLE 8. CD-ROMs (Question 10)

Libraries that indicated that they use or plan to use CD-ROMs were asked to list the products they use, hardware used, year(s) installed, and their satisfaction levels.

Library Code	Software or Program Name	Hardware	Year Installed	Satisfaction Level
aaa	"Numerous"	IBM	1987	Satisfied
bbb	Moody's 5000	Hitachi	1989	Dissatisfied[1]
ccc	UMI's BPO (Bus. Periodicals Online) Computer Library RAPRA (planned) OG PLUS Several Business	IBM PC XT & IBM PS/2	1988-89	Satisfied
eee	Several	IBM PC compatible, Hitachi Disk Drive		Satisfied
iii	Micropatent (US Patent Abstracts)	Hitachi CDR 3600	1990	Satisfied
kkk		BRS	1991	Neutral
lll	5-6 CD-ROMs currently in use			
mmm	Sigma Aldrich	Hitachi; IBM PC/AT	1989	Very Satisfied

[1] "Need to look at other CD-ROM products"

Desktop Publishing (Question 11)

Six of the thirteen libraries with automation projects (46%) have implemented/plan to implement desktop publishing capabilities. Seven (54%) have not. PageMaker appears the most popular -- three libraries (see Table 9). Ventura, Drawing Gallery and WordPerfect ver. 5.1 are each used by one library. Two libraries listed MacIntoshes, while two utilize IBMs or IBM clones. Only four installation dates were provided; these range from 1986 through 1989. Two libraries are Very Satisfied, two Satisfied, and one Neutral; the sixth library is just beginning to discuss the possibilities of utilizing desktop publishing.

Word Processing (Question 12)

Twelve of the thirteen libraries with automation projects (92%) utilize word processing. One does not. Five of these libraries use WordPerfect 5.1, three use either MASS-11 or WORD-11 on a VAX, one uses PROFS, one uses MultiMate, one uses both WordStar and PC-Write, and one just uses PC-Write. Dates of installation range from early 1980s to 1990. Most (7) indicate they are Very Satisfied with their systems; three are Satisfied (see Table 10).

Spreadsheets (Question 13)

Seven of twelve libraries (58%) answering this question have implemented computerized spreadsheet programs. Five (42%) have not. Five libraries are using LOTUS 1-2-3, one uses Digicalc, and one uses Excel (see Table 11). These systems were installed from 1980 through 1989 (four dates were listed). The satisfaction levels were split between Very Satisfied and Satisfied.

TABLE 9. Desktop Publishing (Question 11)

Libraries that indicated that they use or plan to use Desktop Publishing were asked to list the product they use, hardware used, year(s) installed, and their satisfaction levels.

Library Code	Software or Program Name	Hardware	Year Installed	Satisfaction Level
aaa	PageMaker	MacIntosh	1986	Satisfied
ddd	PageMaker	MacIntosh SE/30	Planned	"just beginning"
eee	Ventura	Compaq Enhance II; Apple Laserwriter II	1989	Neutral
fff	PageMaker		1989	Satisfied
lll	Drawing Gallery		1990	Very Satisfied
mmm	WordPerfect 5.1	IBM PC/AT	1989	Very Satisfied

TABLE 10. Word Processing (Question 12)

Libraries that indicated that they use or plan to use Word Processing were asked to list the product they use, hardware used, year(s) installed, and their satisfaction levels.

Library Code	Software or Program Name	Hardware	Year Installed	Satisfaction Level
aaa	MASS-11, EDT	VAX	1986	Very Satisfied
bbb	WordPerfect 5.1	IBM PS/2s, DELL PC, IBM Tower 80, Compaq 386/20e	various	Very Satisfied
ccc	PROFS	IBM VM	1982	Very Satisfied
ddd	WORD-11	VAX Mainframe	early 1980s	Very Satisfied
eee	MASS-11	VAX 6410	?	Satisfied
fff	WordPerfect 5.1		1990	Very Satisfied
hhh	WordPerfect; Microsoft Word			
iii	WordStar; PC-Write	IBM PS/2	1987	Satisfied
jjj	MultiMate	IBM PC	1980	Very Satisfied
kkk	PC Write	PC	1987	Satisfied
lll	WordPerfect 5.1	Compaq 386 // Laser Jets	1987	Very Satisfied
mmm	WordPerfect 5.1	IBM PC/AT clone	1988	

TABLE 11. Computerized Spreadsheets (Question 13)

Libraries that indicated that they use or plan to use Computerized Spreadsheets were asked to list the product they use, hardware used, year(s) installed, and their satisfaction levels.

Library Code	Software or Program Name	Hardware	Year Installed	Satisfaction Level
bbb	LOTUS 1-2-3	IBM PS/2s, DELL PC, IBM Tower 80, Compaq 386/20e	various	Very Satisfied
ddd	Digicalc	VAX Mainframe		
fff	LOTUS 1-2-3		1985	Satisfied
hhh	LOTUS 1-2-3			Satisfied
iii	LOTUS 1-2-3	IBM PC	1980	Satisfied
lll	Excel		1989	Satisfied
mmm	LOTUS 1-2-3	IBM PC/AT clone	1988	Very Satisfied

Project Manager (Question 14)

None of the thirteen libraries with automation projects use computerized project managers.

Other Automated Capabilities/Functions (Question 15)

One library indicated that it was Very Satisfied using OCLC's MicroEnhancer for its Inter-Library Loans. One library is Very Satisfied using OCLC's new Passport software. One library commented that it was Satisfied with "Librarian's Helper". And one library commented that they search Current Contents on Disk weekly -- transferring the results of the search through electronic mail to staff members -- and that staff members request articles from these searches by E-Mail as well.

Library Staff, Etc. (Questions 16-18)

Most libraries responding to this question had at least one full-time professional, one to three para-professionals, and one part-time to six full-time with one part-time clerical staff (see Table 12).

Collection sizes varied widely and can best be described by displaying in a table (see Table 13).

Automation projects were funded by annual budgets in six companies and by one-time requests in eight companies (two companies indicated both categories).

TABLE 12. Library Staff, Etc. (Question 16)

Libraries were asked to list the number of their employees and to specify their employment level.

Library Code	Professional (MLS degree) Positions		Para-Professional Positions (some library sci.)		Nonprofessional/Clerical Positions		Other positions, specify
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	
aaa	1-MLS;5-BA/MA/PhD Science	2	0	0	6	1	
bbb	3	1	2	--	6	1	
ccc	--	--	1 - BS Chemistry (no MLS)	--	2	--	
ddd	--	--	3 -- degreed Chemists	--	2	1	
eee	1	--	3	1	1	--	
fff	1	--	--	--	2	--	
ggg	1	--	2	--	--	1	
hhh	1	--					
iii	1	--	1	--			
jjj	1	--	1	--	--	1	
kkk	1	--					
lll	2	--					
mmm	--	--	1	--	--	1	2 -- degreed Chemists

TABLE 13. Collection Size (Question 17)

The three tables labeled Table 13 represent the size of the collections of the various libraries responding to this questionnaire. This first table includes information on the size of the book collection, as well as the periodicals collection.

Library Code	Books						Periodicals
	< 1,000	1,001-2,500	2,501-5,000	5,001-10,000	10,001-20,000	> 20,000	approx. #
aaa					X		850
bbb						X	1100 current titles; >70,000 collected
ccc					X		500
ddd					X		350 titles held; 250 current titles
eee				X			ca. 750
fff				X			270
ggg				X			400
hhh	X						
iii				X			300
jjj					X		200 sub/yr; 150-200 donated by staff
kkk					X		
lll			X				200
mmm				X			550

TABLE 13 (Continued). Collection Size (Question 17)

The three tables labeled Table 13 represent the size of the collections of the various libraries responding to this questionnaire. This second table includes information on the size of the video collection.

Library Code	VIDEOS					
	< 10	11-25	26-50	51-100	101-200	> 200
aaa	X					
bbb	X					
ccc	X					
ddd				X		
eee	X					
fff						X
ggg	X					
hhh	X					
iii	X					
jjj					X	
kkk		X				
lll				X		
mmm			X			

TABLE 13 (Continued). Collection Size (Question 17)

The three tables labeled Table 13 represent the size of the collections of the various libraries responding to this questionnaire. This third table includes information on the size of their collection of other audiovisuals.

Library Code	OTHER AUDIOVISUALS					
	< 10	11-25	26-50	51-100	101-200	> 200
aaa	X					
bbb	X					
ccc	X					
ddd				X		
eee			X			
fff			X			
ggg						
hhh	X					
iii	X					
jjj						X
kkk						
lll				X		
mmm						X

CONCLUSIONS

The purpose of this study was to describe the levels and types of automation currently employed (and planned systems) in chemical (sci-tech) libraries functioning within for-profit corporations in the state of Ohio. Automation does appear to play a larger role in the libraries responding to this questionnaire than to those studies cited from the past. Automation appears to be a key component in enabling chemical libraries to effectively perform their job responsibilities. It is hoped by the author that the information provided in this paper will prove useful to other chemical librarians, especially to those who may be considering an automation project and would appreciate non-vendor supplied/librarian evaluated information about various systems. As mentioned earlier, automation is an expensive, sometimes risky endeavor, and it is hoped that through the use of a compilation of the state-of-the-art in similar libraries, chemical librarians will be able to make the most of their time and money.

This study focused mainly on automation of functions within technical services. It does, however, also address database searching (both commercial systems and In-House systems), interlibrary loan methods, and systems used for verifying bibliographic citations/cataloging records. This survey also addressed, but did not focus on, automation software packages used such as word processing, desktop publishing, and spreadsheets.

Most of the librarians responding to this survey requested anonymity; therefore, generic codes were used in all listings of software packages/hardware equipment used for particular functions. While this does not permit readers of this paper to directly contact a librarian with a particular system, the author believes that it does provides a wealth of

information for comparing various capabilities of a variety of systems.

It would have been interesting to try to determine why some libraries are more automated than others. Is it due to the librarians interests? to management support? to staff attitudes? to budgets? to particular needs? The author proposes that this might be an area for further research.

BIBLIOGRAPHY

Cargill, Jennifer. "Micros at Work: Specific Library Applications" in Connecting with Technology 1988: Microcomputers in the Libraries, ed. Nancy Melin Nelson. (London: Meckler, 1988), 13-25.

Denton, Ann and Ramona M. Mahood. "Automation of Technical Service Functions in Academic, Public, and Special Libraries in Tennessee: A Survey Report," Tennessee Librarian, 41(4) (Fall 1989): 15.

Dickman, Julia. "Where does IT fit in?" in Resource Allocation in Industrial and Commercial Libraries: Optimising New Technology and New Services, ed. Lawraine Wood, (Los Angeles, CA: Taylor Graham, 1988): 28-29.

Directory of Special Libraries and Information Centers, 1987 10th ed. ed. Brigitte T. Darnay (Detroit, MI: Gale Research Company, 1987).

Ertel, Monica. "Micros for Productivity: Where Will We Stand Tomorrow?" in Connecting with Technology 1988: Microcomputers in Libraries. ed. Nancy Melin Nelson, p. 8.

Grosch, Audrey N. Distributed Computing and the Electronic Library: Micros to Superminis, (White Plains, NY: Knowledge Industry Publications, Inc., 1985), v.

Kobelski, Pamela and Betty Miller. "Impact of Online Search Services on Special Libraries," Science & Technology Libraries 7 (Fall 1986): 79.

The Library Microcomputer Environment: Management Issues, ed. Sheila S. Intner and Jane Anne Hannigan, (Phoenix, Arizona: Oryx Press, 1988).

McGee, Rob. "Funding Library Automation," ed. Jon Drabenstott, Library Hi Tech 4(1) (Spring 1986): 112.

Saffady, William. Introduction to Automation for Librarians, (Chicago, Illinois: American Library Association, 1983).

"System Performance," ed. Jon Drabenstott, Library Hi Tech 4(3) (Fall 1986): 105.

Todd, Carol D. "From A to Z and Everything in Between: Automation and Special Libraries" Illinois Libraries 71(3-4) (March-April 1989): 199-203.

Wallace, Danny P. and Joan Giglierano. "Microcomputers in Libraries," Library Trends 37(3) (Winter 1989): 295.

Walton, Robert A. Microcomputers: A Planning and Implementation Guide for Librarians and Information Professionals. (Phoenix, Arizona: Oryx Press, 1983).

APPENDIX A.

LIBRARY AUTOMATION: SURVEY OF CHEMICAL (SCI-TECH) LIBRARIES WITHIN LARGER, FOR-PROFIT CORPORATIONS IN OHIO

QUESTIONNAIRE

PLEASE RETURN QUESTIONNAIRE BY APRIL 19, 1991

Name:_____ **Title:** _____

Company Name: _____

Full Library name: _____

Library Address: _____

Phone: _____

For the purposes of this questionnaire, LIBRARY AUTOMATION is defined as the use of a computer to perform a function (or functions) within the library -- normally utilizing some software application/program(s) for storage, manipulation, and/or retrieval of data (textual, bibliographic, and/or numeric). This can include online services, CD-ROMs, word processing, as well as automated library software.

AUTOMATION STATUS

1. Please indicate your automation status (Check only one)

a. _____ Implemented (at least 1 project)
b. _____ Planned (none implemented) -- please specify:
_____ 0-2 yr. _____ 2-5 yr. _____ 5+ yr.
c. _____ No Plans to Automate

Comments (Reasons For/Against Automation, etc.):

IF YOU RESPONDED THAT YOUR LIBRARY HAS IMPLEMENTED OR PLANNED AUTOMATION PROJECTS, PLEASE PROCEED TO QUESTION 2.

IF YOU RESPONDED THAT YOUR LIBRARY HAS NO PLANS TO AUTOMATE, PLEASE PROCEED TO QUESTION 21.

CATALOGING/BIBLIOGRAPHIC CONTROL

2. Do you have (or plan) an OPAC (Online Public Access Catalog)?

a. _____ YES _____ NO If NO, skip to question 3.
_____ Implemented _____ Planned

b. Specify: program/system _____
hardware _____

c. Are all library materials included in the database?
_____ Yes _____ No If NO, what is not included?
_____

d. When was this accomplished? _____ (year)

e. Does the system use: _____ Full MARC _____ Partial MARC
_____ Both MARC & Non-MARC _____ Non-MARC
records? (Check all that apply)

f. Basic retrieval functions/search capabilities (check all that apply)
_____ Author _____ Title _____ Uniform Title _____ Subject
_____ Series _____ ISSN _____ ISBN _____ Keyword
_____ Boolean Logic _____ LC card no.
_____ Classification Number _____ "Browse" index
_____ Other(s): please specify

g. Technical Service functions (check all that apply)
_____ Authority Control _____ Global change capability
_____ Verification of Names as added to database
_____ Verification of Subjects as added to database

h. System accessibility (check all that apply)
_____ Dedicated terminals/PCs
_____ Network
_____ Remote access (Dial-in)
_____ Other, specify:

i. Is a printer available for patron use? _____ Yes _____ No

j. Status of "card" catalog (please check all that apply):
_____ Discarded _____ Old cards available
_____ Only Shelflist maintained _____ Card catalog kept current
_____ Other, specify _____

k. Please indicate satisfaction/dissatisfaction level with OPAC:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

3. Do you use (or plan) some form of automation to aquire cataloging records?

a. _____ YES _____ NO If NO, skip to question 4.

_____ Implemented _____ Planned

If so, please check all that apply:

_____ OCLC _____ EPIC _____ Bibliofile (CD-ROM)

_____ Other, specify _____

CIRCULATION

4. Do you have (plan) automated circulation of materials?

a. _____ YES _____ NO If NO, skip to question 5.

_____ Implemented _____ Planned

b. Is the circulation system integrated with an OPAC system?

_____ YES _____ NO

c. Specify: program/system _____

hardware _____

d. Are all library materials circulated this way?

_____ YES _____ NO If NO, what is not:

e. When was this accomplished? _____ (year)

f. Please indicate satisfaction/dissatisfaction level with the circulation component:

_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral

_____ 4 Dissatisfied _____ 5 Very Dissatisfied

Comments:

ACQUISITIONS/COLLECTION DEVELOPMENT

5. Do you have (plan) an automated acquisitions and/or collection development system?

a. _____ YES _____ NO If NO, skip to question 6.

_____ Implemented _____ Planned

b. Is the acquisitions and/or collection development system integrated with an OPAC system? **_____ YES _____ NO**

c. Specify: program/system _____

hardware _____

d. Are all library materials selected/ordered this way?

_____ YES _____ NO If NO, what is not:

e. When was this accomplished (projected)? _____ (year)

f. Please indicate satisfaction/dissatisfaction level with the acquisitions/collection development system:

_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

SERIALS

6. Do you have (plan) an automated serials system?

a. _____ YES _____ NO If NO, skip to question 7.
_____ Implemented _____ Planned

b. Is the serials system integrated with an OPAC system?
_____ YES _____ NO

c. Specify: program/system _____
hardware _____

d. Are all serial materials handled this way?
_____ YES _____ NO If NO, what is not:

e. When was this accomplished (projected)? _____ (year)

f. System capabilities (check all that apply)
_____ Claims _____ Bindery lists _____ Routing
_____ Holdings/Union List _____ Want Lists
_____ MARC Conversion _____ Accounting/Payment Records
_____ Other, specify _____

g. Please indicate satisfaction/dissatisfaction level with the serials system:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

DOCUMENT ACCESS

7. Do you have (plan) an automated document access system?

a. _____ YES _____ NO If NO, skip to question 8.
_____ Implemented _____ Planned

b. Is the document access system integrated with an OPAC system?
_____ YES _____ NO.

c. Specify: program/system _____
hardware _____

d. Are any documents selected/ordered in any other way?
Specify _____

c. When was this accomplished (projected)? _____ (year)

f. System capabilities (check all that apply)
_____ Tracking System _____ Accounting/Payment Records
_____ Other, specify _____

g. Please indicate satisfaction/dissatisfaction level with the document access system:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

OTHER AREAS OF AUTOMATION

8. DATABASES, IN-HOUSE

a. Do you have (plan) a computerized database for In-House Research Reports
_____ YES _____ NO If NO, skip to question 8b.
_____ Implemented _____ Planned

Includes: _____ Indexing _____ Abstracts _____ Full-text Online
_____ Other, specify _____

System Specifications:
program/system _____
hardware _____
Year Installed _____
Please indicate satisfaction/dissatisfaction level:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

b. Do you have (plan) a computerized database for company Patents and Patent Applications
_____ YES _____ NO If NO, skip to question 8c.
_____ Implemented _____ Planned

Includes: _____ Indexing _____ Abstracts _____ Full-text Online
_____ Other, specify _____

System Specifications:
program/system _____
hardware _____
Year Installed _____
Please indicate satisfaction/dissatisfaction level:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

c. Do you have (plan) a computerized database for In-House Research Notebooks
_____ YES _____ NO If NO, skip to question 8d.
_____ Implemented _____ Planned

Includes: _____ Indexing _____ Abstracts
_____ Other, specify _____

System Specifications:
program/system _____
hardware _____
Year Installed _____
Please indicate satisfaction/dissatisfaction level:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

d. Do you have (plan) a computerized database for access to MSDSs (Material Safety Data Sheets)
_____ YES _____ NO If NO, skip to question 9.
_____ Implemented _____ Planned

Includes: _____ Indexing _____ Abstracts _____ Full-text Online
_____ Other, specify _____

System Specifications:
program/system _____
hardware _____
Year Installed _____
Please indicate satisfaction/dissatisfaction level:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

9. DATABASES, COMMERCIAL

a. Do you use (plan to use) Online commercial databases?
_____ YES _____ NO If NO, skip to question 10.
_____ Implemented _____ Planned

b. Rank Vendors by service most frequently used (1=most freq.) Assign the same number for equal use.
_____ DIALOG _____ STN Int'l. _____ Orbit
_____ Pergammon _____ LEXIS/NEXIS _____ DataStar
_____ Dow Jones _____ BRS _____ Wilsonline
_____ Other(s), specify: _____

c. Who performs the searches (1=Frequently 2=Occasionally 3=Never)
_____ Librarian _____ Para-professional _____ End-user

d. Modem -- Baud Rates
_____ 1200 _____ 2400 _____ 9600

e. Communications software.
Rank Vendors by service most frequently used (1=most freq.) Assign the same number for equal use.
_____ DialogLINK _____ STN Express _____ Kermit
_____ Procomm Plus _____ Other(s), specify: _____
Please indicate satisfaction/dissatisfaction level:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

f. Do you perform post processing of search results?
_____ YES _____ NO If NO, skip to question 10.

System Specifications:
program/system _____
hardware _____
Year Installed _____
Please indicate satisfaction/dissatisfaction level:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

10. Do you use (plan to use) CD-ROMs?
a. _____ YES _____ NO If NO, skip to question 11.
_____ Implemented _____ Planned

System Specifications:
program/system _____
hardware _____
Year Installed _____
Please indicate satisfaction/dissatisfaction level:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

11. Do you use (plan to use) Desktop Publishing?

a. _____ YES _____ NO If NO, skip to question 12.

_____ Implemented _____ Planned

System Specifications:

program/system _____

hardware _____

Year Installed _____

Please indicate satisfaction/dissatisfaction level:

_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral

_____ 4 Dissatisfied _____ 5 Very Dissatisfied

Comments:

12. Do you use (plan to use) Word Processing?

a. _____ YES _____ NO If NO, skip to question 13.

_____ Implemented _____ Planned

System Specifications:

program/system _____

hardware _____

Year Installed _____

Please indicate satisfaction/dissatisfaction level:

_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral

_____ 4 Dissatisfied _____ 5 Very Dissatisfied

Comments:

13. Do you use (plan to use) computerized Spreadsheets?

a. _____ YES _____ NO If NO, skip to question 14.

_____ Implemented _____ Planned

System Specifications:

program/system _____

hardware _____

Year Installed _____

Please indicate satisfaction/dissatisfaction level:

_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral

_____ 4 Dissatisfied _____ 5 Very Dissatisfied

Comments:

14. Do you use (plan to use) a computerized Project Manager?

a. _____ YES _____ NO If NO, skip to question 15.

_____ Implemented _____ Planned

System Specifications:

program/system _____

hardware _____

Year Installed _____

Please indicate satisfaction/dissatisfaction level:
_____ 1 Very Satisfied _____ 2 Satisfied _____ 3 Neutral
_____ 4 Dissatisfied _____ 5 Very Dissatisfied
Comments:

15. **Please list other automated capabilities/functions.** If appropriate, indicate software, hardware, and level of satisfaction.

LIBRARY STAFF, ETC.

16. **Library staff** -- indicate # of persons in each category:

	full-time	part-time
professional (MLS degree)	_____	_____
para-professional (some Lib. Sci. formal training)	_____	_____
nonprofessional/clerical	_____	_____
other, specify	_____	_____

17. Collection size

Books: _____ Less than 1,000 _____ 1,001--2,500 _____ 2,501--5,000
_____ 5,001--10,000 _____ 10,001--20,000 _____ Over 20,000

Videos: _____ Less than 10 _____ 11--25 _____ 26--50
_____ 51--100 _____ 101--200 _____ Over 200

Other Audiovisuals: _____ Less than 10 _____ 11--25 _____ 26--50
_____ 51--100 _____ 101--200 _____ Over 200

Periodicals: (approximate number) _____

Others, specify and give approximate numbers:

18. **Budget (This information will remain confidential,** but may be used to group libraries of similar size for statistical purposes. For example, libraries with budgets less than $x tend to have x number of automation projects, whereas libraries with budgets greater than $y tend to have y number of automation projects.)

Total Annual Budget: _____
How are automation projects funded:
_____ Annual Budget
_____ One-time Request
_____ Other, specify.

19. Additional Comments:

20. May I attach a code for your library to your responses? Comments will not be identified by library name, only programs/systems/capabilities types of information will. (If you want all your responses to remain anonymous, please indicate X NO).

_____ YES _____ NO

21. My name and company name may be used.

_____ YES _____ NO

22. Library automation contact person (which will be listed in the final report):

_____

Signature: _____

Thank you for your cooperation. If you would like information on obtaining a copy of this study when it is completed, please check the following space, and information will be sent to you _____.

PLEASE RETURN THIS FORM IN THE ENCLOSED SELF-ADDRESSED STAMPED ENVELOPE or FAX a copy to: 216/672-7965 School of Library Science, attn. Krystal K. Slivka. Thank you very much for your cooperation.

Krystal K. Slivka
Graduate Student
Kent State University
School of Library Science
Kent, OH 44242

PLEASE RETURN QUESTIONNAIRE BY APRIL 19, 1991

APPENDIX B.

KENT STATE UNIVERSITY

HUMAN SUBJECTS REVIEW BOARD

•••

Notice to Investigator
of
Initial Review of Project Application

Investigator's Name(s) Krystal K. Slivka

Project Title Library Automation

•••

Federal and University regulations require that all research involving human subjects be reviewed in advance by the full Human Subjects Review Board, except for specific categories of research which may be approved through an expedited procedure (Level I and Level II). Results of the initial screening of your project application are indicated below. If there are any questions, please contact your reviewer or the Division of Research and Sponsored Programs, 233 Lowry Hall, telephone 672-2070. Upon formal approval, a copy of the signature page of your application will be sent to you or your advisor if you are a student.

==========

____ LEVEL III Review:
Your project will be considered by the Human Subjects Review Board at its meeting on (Date)_____, starting at (Time) _____ in room 243 Lowry Hall. Following the meeting you will be notified as the Board's action by the Office of Research and Sponsored Programs.

____ Your attendance at this meeting is optional.

____ You are strongly urged to attend this meeting in order to answer any questions about your project. If you are a student, your faculty advisor is also invited to attend.

____ LEVEL II - Project will be examined by a second reviewer.
You may begin your project when notified by the Office of Research and Sponsored Programs.

✓ LEVEL I - Approved
You may begin your project immediately.

____ ADDITIONAL INFORMATION IS NEEDED BEFORE APPROVAL CAN BE GRANTED. (See comments)

Comments:

Dr. [illegible] 4/3/91
Reviewer Date

KENT STATE UNIVERSITY HUMAN SUBJECTS REVIEW BOARD
APPLICATION FOR APPROVAL TO USE HUMAN SUBJECTS IN RESEARCH

LOG NUMBER 91-457

REVIEW DATE _____

PAGE 1 OF 4

Please type all information. HANDWRITTEN FORMS CANNOT BE ACCEPTED.

Name Krystal K. Slivka Telephone 762-6454 Address 163 Dodge Ave., Akron, OH 44302

Department Library Science Faculty Rank/Student Status Graduate Student

Project Title Library Automation: Survey of Chemical (Sci-Tech) Libraries within Larger, For-Profit Corporations in Ohio

Type of Project: ___ Faculty Research ___ Externally Funded (Agency: _____)
X Student Directed Research (Advisor: Dr. Greg Byerly)
___ Thesis ___ Dissertation ___ Course Requirement (course number: _____)
___ Other (Specify: _____)

Duration of Project: Starting Date April 10, 1991, but not before approval is obtained.

Ending Date Aug. 31, 1991

I certify that the research procedures for this project, and the method of obtaining consent (if any), as approved by the Human Subjects Review Board, will be followed during the period covered by this research project. Any future changes will be submitted for Board review and approval prior to implementation.

Krystal K. Slivka 03-27-91
Principal Investigator Date

Greg Byerly 3/27/91
Faculty Advisor (if PI is a student) Date

ACTION TAKEN:

REVIEWER

✓ Level I, Category 3

___ Level II, Category ___

___ Level III, To Full Board

Dr. Jerry Vilmain 4/3/91
Departmental Reviewer Date

_____
Co-Reviewer (Level II) Date

KSU HUMAN SUBJECTS REVIEW BOARD

✓ Approved, Level I

___ Approved, Level II

___ Approved by Board ___ Contingent ___ Disapproved

Judith Jaggar 4/5/91
Administrator, HSRB Date

Adrian de Groot 4-5-91
Chairperson, HSRB Date

COMMENTS OR CONTINGENCIES:

BEST COPY AVAILABLE

1

PART I: Please answer the following by circling the correct response:

(Yes) No 1. Will subjects be identifiable to anyone other than the researchers through records, responses or identifiers linked to the subjects? Only if approved by subject.

Yes (No) 2. Could subjects be at risk of criminal or civil liability, damage to employability or to financial standing, or undue embarrassment, if responses became known outside this research project?

Yes (No) 3. Does research deal with sensitive aspects of subjects' behavior, such as illegal conduct, drug use, sexual behavior, or use of alcohol?

Yes (No) 4. Does research involve the collection or study of existing data from sources not publicly available? (existing data can be documents, records, pathological specimens or diagnostic specimens)

Yes (No) 5. Will subjects be video/audio taped?

Yes No (NA) 6. Are subjects free to withdraw at any time without penalty?

Yes (No) 7. Is there deception of subjects that is unexplained at end of project?

Yes (No) 8. Does research deal with subjects who are children under eight years, not-legally-competent adults, mentally handicapped, physically handicapped, prisoners, or pregnant women? (circle appropriate group or groups)

****

PART II: Summarize proposed project and procedures to which humans will be subjected. (DO NOT WRITE "SEE ATTACHED") Consent form(s), questionnaire(s), etc. should be included with the application.

Self-administered questionnaires will be mailed to each library. Participation is voluntary and responses will only be identifiable for those libraries providing consent (Questions 20 & 21 of questionnaire.) Forms will be returned to the Primary Investigator for compilation.

PART III: Please answer all of the following items. If not applicable to your project, write "None" or "NA", as appropriate. If more space is needed, use additional paper.

1. How will the subjects be selected? (Include rationale for use of special classes of subjects such as pregnant women, children, institutionalized mentally disabled, prisoners, or those whose ability to give voluntary informed consent may be in question.)

   All libraries listed under chemistry related terms in the index of the Directory of Special Libraries and Information Centers by Gale Research Company (1987 or newer)

2. Briefly describe the characteristics of your population(s): the size of your sample, the ethnic background, sex, age, state of health and the criteria for inclusion or exclusion of subjects.

   Chemical librarians in Research/Corporate Libraries within chemical companies. (in Ohio)

3. Identify any risks - physical, psychological, and/or social - to which your subjects may be exposed as a result of participation in your project (beyond the risks normally encountered in everyday life). What safeguards will you use to protect the subjects from these risks, as well as to protect their rights, welfare and privacy? (Never answer "NA")

   To my knowledge there should be no risks involved in participating in this study. Participation is voluntary, degree of participation is voluntary, and subjects may remain anonymous if desired.

4. How will the subjects be informed of the risks to which they will be subjected?

   The cover letter will state that participation is voluntary.

5. How will you obtain "informed consent"? (append form(s) to be used)

   Participation will be considered implied consent (questions 20, 21 provide the subject with the opportunity to state whether or not they desire to remain anonymous.

6. Describe alternative procedures that were considered and why they will not be used.

   Personal interviews -- too expensive
   Literature review -- nothing comprable for this group has been done.

7. Describe the benefits expected to be gained from this project. (This should include any direct benefits to the subjects as well as any general gain in knowledge.)

   Please see attached sheet.

BEST COPY AVAILABLE

Part III

7. Describe the benefits expected to be gained from this project. (This should include any direct benefits to the subjects as well as any general gain in knowledge.)

Automating a library can be an expensive, time-consuming endeavor that includes many risks. These risks can be reduced through a variety of methods: learning all one can about the systems available that perform the functions in which one is interested, clearly defining ones needs and expressing them succinctly to vendors, and learning how other similar libraries have dealt/are dealing with similar automation projects. This paper proposes the use of a survey of chemical (sci-tech) libraries functioning within larger, for-profit corporations in Ohio to generate information on ongoing and proposed automation projects for such libraries. While it would probably be difficult for one of these librarians to get approval to visit another's site, because of the competitive nature of these companies, a survey such as the one proposed will provide the opportunity for these librarians to learn of successes and disappointments with systems in these other libraries. Informal discussion with some of these librarians has indicated a need for such a compilation and exchange of information. They also indicated a willingness to cooperate as fully as possible.

8. In which Kent State University faculty or departmental office will the signed consent forms be kept? (Consent forms must be kept on campus, not in a private home or office.) If the study does not involve consent forms, answer "NA".

NA (but questionnaires can be kept in the Library Science Dept.)

9. If deception is involved, describe its nature, why it is necessary, and how subjects will be debriefed. Include any feedback, educational or otherwise, which subjects will receive.

NA

10. What do you intend to do with the data collected? (i.e., publish data, present paper, erase tapes, etc.)

Submit a research paper as a requirement for graduation (M.L.S. program)

11. Describe any form of compensation to subjects. (i.e., money, grade, extra credit, etc. If extra credit or grade is given to students who participate in the project, what opportunity for extra credit or grade is provided to students who choose not to participate?)

NA, however, I will try to provide the results to all participants who desire them.

12. If you will be using children under 18, explain in detail how you will obtain assent (for children under 12; see page 8) or consent (for children 12 to 18). If assent/consent will be obtained orally, supply a script of what you will say and how you will give the children the opportunity to say "yes" or "no".

NA

13. If the project involves drawing blood, taking tissue samples, giving injections, etc., what are the qualifications/certifications of the person(s) doing this?

NA

14. a. If the subjects' personal files (school, medical, etc.) will be read, where are the files kept and who will gather the information?

NA

b. Has permission been obtained to gather this information? (Attach documentation)

c. Do the subjects (and/or their parents or guardians) know that these files will be read? If no, explain.

15. a. Will test results be disseminated to the subjects (and/or their parents or guardians)?

A copy of the paper will be kept on file at KSU, and a copy will be submitted to ERIC.

b. If so, explain the qualifications of the person(s) interpreting the results.

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